

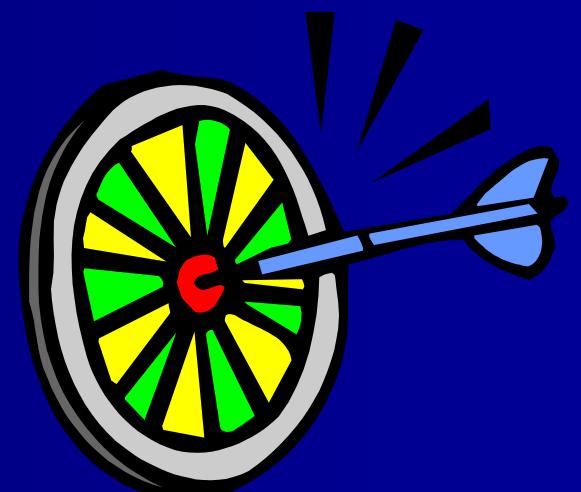


Military Healthcare Data Systems

Presented by
Lt Col Michael Hartzell
TRICARE Management Activity
Health Program Analysis & Evaluation
September 16, 2003

AGENDA

- **MHS Mission**
- **TRICARE Beneficiaries & MHS Weekly Workload**
- **Local Data Systems**
- **Corporate Data Systems**
- **MHS Data Sources**
- **MHS Mart (M2)**
- **Population Health (PHOTO)**



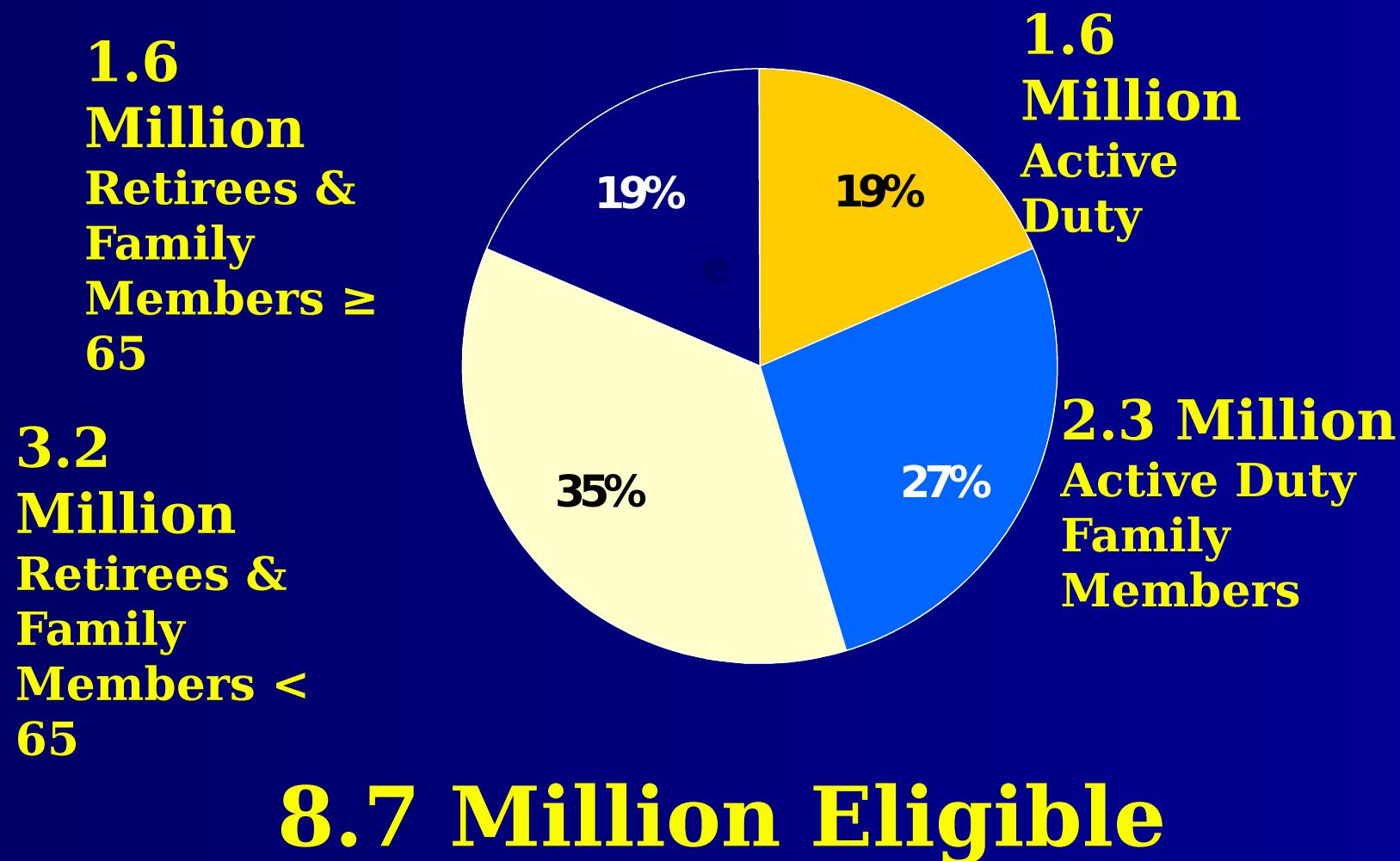
MHS Mission

Data is Essential



- Force Health Protection
Medical Readiness
 - Healthy and fit force
 - Casualty prevention
 - Casualty care and management
- MHS Optimization
TRICARE Performance Improvement
 - Access to care
 - Provision of care
 - Population health
 - Manage the business

TRICARE Beneficiaries





Military Health System Weekly Workload

- 15,096 Admissions
- 1,739,171 Prescriptions
- 1,238,339 Outpatient Visits
- 1,800,000 Claims Processed
- 1,813 Births
- 417,075 Telephone Calls

Major MHS Information Systems

LOCAL SYSTEMS

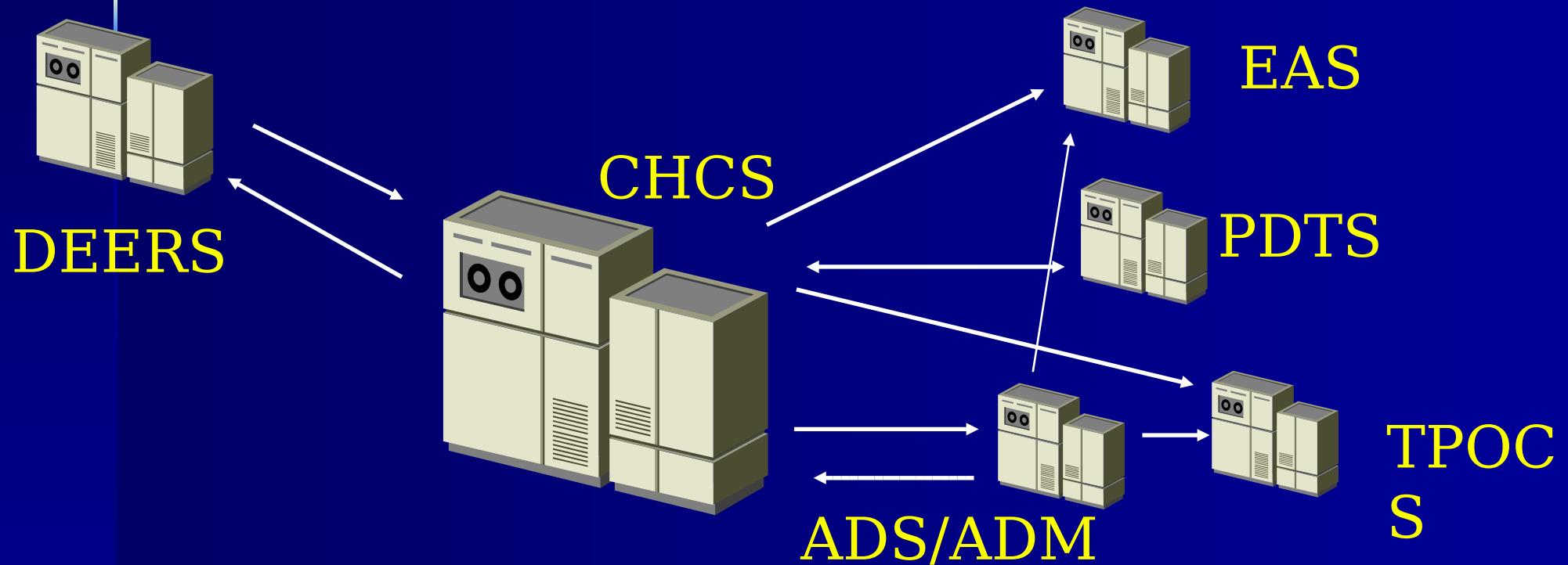


Local Data Systems

- CHCS - Primary operational system at an MTF
 - Patient Registry
 - Appointing
 - PCM Assignment
 - Order Entry
 - Communications with other systems
 - Much more

**CHCS captures
data while it
provides
operational
support to the**

CHCS is the local “Hub”



Data Within the Patient Encounter



Local Data Systems

- **ADS/ADM: Ambulatory Data Capture System**
 - Encounter data
 - Receives important data elements from CHCS files
 - Patient information
 - Provider Information
 - Clinical, administrative, other data entered locally
 - Changes in data do not update CHCS appt file

Local Data Systems

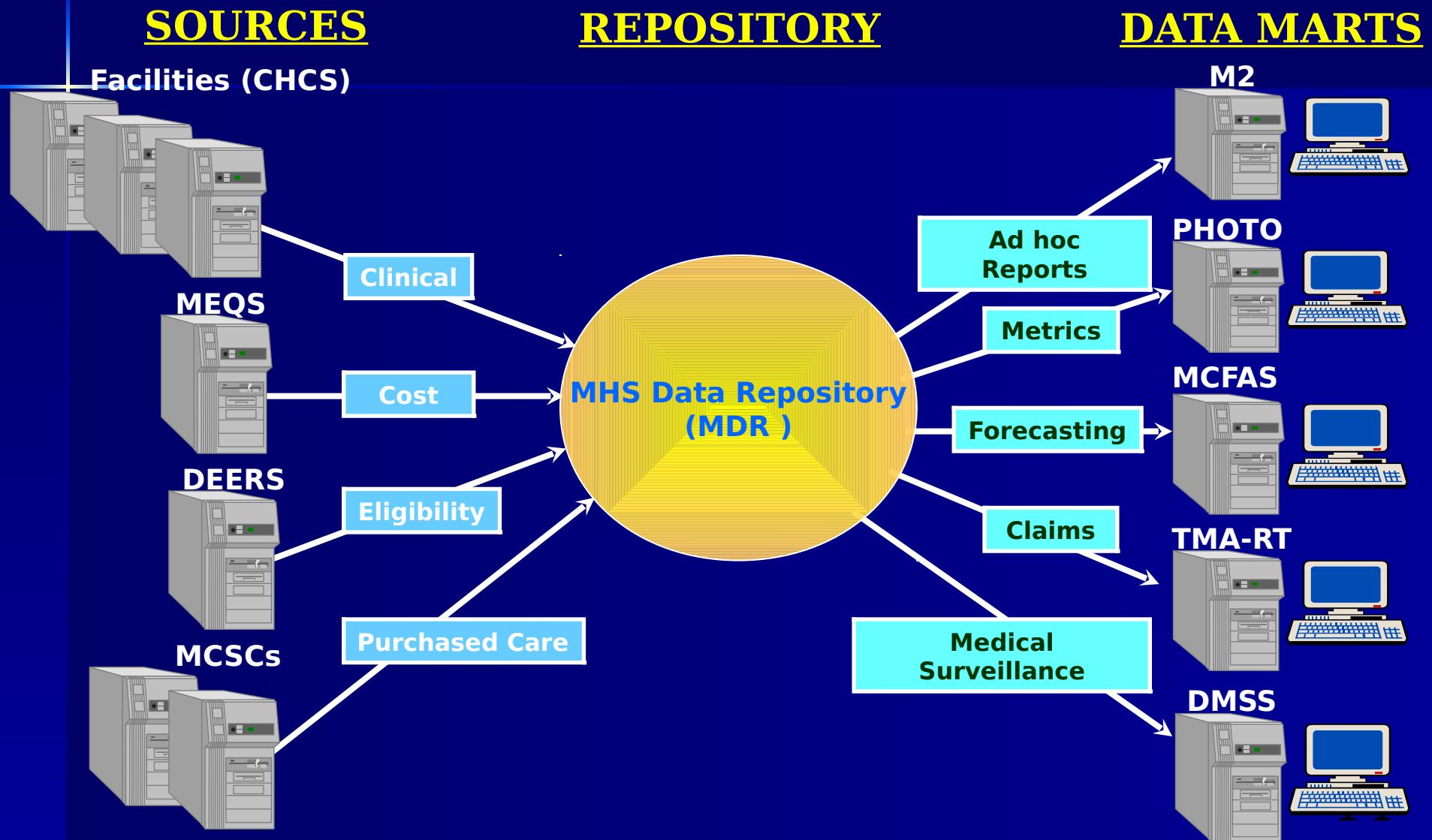
- EAS: Tri-Service Financial Data
 - Locally captured expense data, available FTE data
 - Workload data from CHCS; CPT data from ADM
 - Work-center level unit costing, FTE and workload reporting

Local Data Systems

- TPOCS - Outpatient Collection System
 - Used for billing third party insurers, others for care provided in MTFs
 - Receives patient insurance data from CHCS; encounter data from ADS
 - Change in MHS Billing Policy; FY03
 - From global work-center based billing to CPT level billing

Major MHS Information Systems
CORPORATE SYSTEMS

MHS Data Repository (MDR)



Corporate Data Systems

- **EAS IV Repository**
 - Contains worldwide EASIV data
- **Pharmacy Data Transaction Service (PDTs)**
 - Drug Utilization Review
 - Communicates with CHCS, TRICARE Providers, TMOP

Corporate Data Systems

- **TMA-Aurora**
 - Purchased Care Claims System
 - Receives and edits checks TRICARE Claims
 - After claim is processed by MCS Contractor
Fiscal Intermediary (FI)
 - FI communicates with DEERS; provides
claim data to TMA-Aurora

Corporate Data Systems

- **MHS Data Repository (MDR)** - located in Denver, CO
 - MDR receives data from CHCS, ADS, PDTS, TMA- Aurora, DEERS, Others
 - One stop shop
 - Used for most major initiatives (e.g. BPA)
 - “Processes data” (does not edit)
 - Prepares files for data marts (M2, PHOTO and MCFAS)

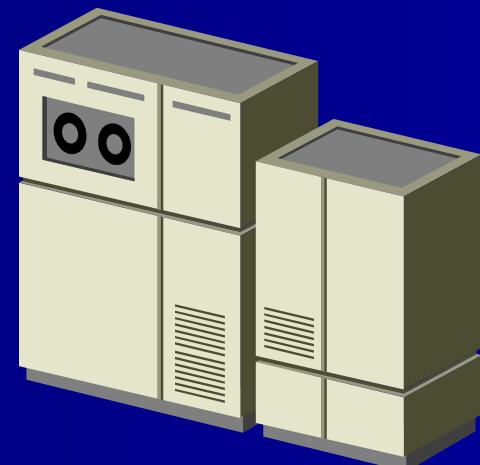
MHS Data Sources

Overview of major MHS Data Sources

MHS Data Sources

The MHS Data Repository (MDR) –
Collection of
“official” MHS data

- Person Demographic Data
- Encounter Data
- Claims Data
- Reference Data



Periodicity and Volume of Data

Data Type	Data Source	Inbound Periodicity
Health Level 7 (HL-7)	CHCS Hosts	Daily
Standard Ambulatory Data Record (SADR)	CHCS & ADS Hosts	Daily
Standard Inpatient Data Record (SIDR)	CHCS Hosts	AF & Navy: Monthly Army: Bi-weekly
Health Care Service Record (HCSR) Institutional Claims	TMA-Aurora	Monthly
Health Care Service Record (HCSR) Professional Claims	TMA-Aurora	Monthly
Non-Availability Statements (NAS)	DMDC/DEERS (Auburn Hills)	Monthly
Expense Assignment System IV (EAS IV)	EAS-IV Repository	Monthly
Health Care Provider Record (HCPR)	TMA-Aurora	Monthly
Worldwide Workload Report	Services	Monthly
Pharmacy Data Transaction Service (PDTS)	PDTS	Weekly
Point-in-Time Extract (PITE) - Eligible Beneficiaries	DMDC/DEERS	Monthly
TRICARE Enrollment File	DMDC/DEERS (Auburn Hills)	Monthly
TRICARE Enrollment Summary	DMDC/DEERS (Auburn Hills)	Monthly

Person/Demographic Data

Official Source for MHS Person Data: DEERS

DEERS is a component of the Defense Manpower Data Center (DMDC - located in Monterey, CA). (USD/P&R)

- DEERS serves all of DoD - not just the medical community
- DEERS manages information about entitlements, benefits
- DEERS uses information systems to communicate benefit information about individuals

Some Types of Data in DEERS

- Eligibility Status
- Enrollment Status
- Sponsor Status/Occupation/Unit
- Beneficiary Demographics
- Medicare Status
- Guard/Reserve Information
- Other Key Information

Transactions with DEERS

DEERS receives transactions/data from:

- MTFs
- Beneficiaries
- Service Personnel Offices
- RAPIDS (ID cards)
- Medicare
- Managed Care Support Contractors
- Others

Standard Inpatient Data Record (SIDR)

- SIDR file is transmitted by MTFs directly to EI/DS
 - SIDR should be submitted within 30 days after disposition
 - Data is transmitted between 5th to 10th of each month
 - Data processing completed by the end of the month
- SIDR is also sent to Service Agencies

The same data sent both places



Inpatient Data

- What is a SIDR?
 - SIDRs contain detailed information about:
 - The patient
 - The providers who treated the patient
 - The care that was provided
 - The work centers where care was provided
 - Administrative information about the stay

The SIDR is the most robust source of information about MTF inpatient care delivered available to TMA.

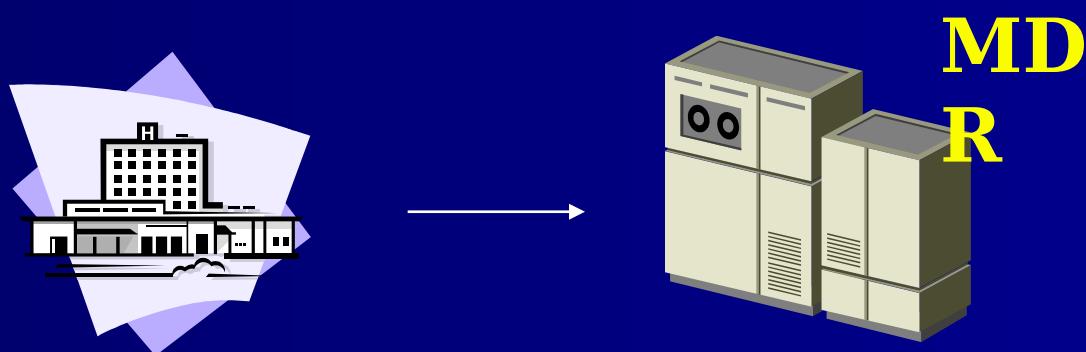
Inpatient Data

- What could you do with SIDRs?

Productivity per Work Center, compare to “peer” facilities, “shop” for services you do not provide, manage care of patients (e.g., researching preventable admissions).

Standard Ambulatory Data Record (SADR)

- SADR file contains daily activity for that MTF
 - SADR should be submitted within 14 days after appointment
 - Data is transmitted and processed weekly in MDR



Ambulatory Data

- What is a SADR?
 - SIDRs contain detailed information about:
 - The patient
 - The providers who treated the patient
 - The care that was provided
 - The work centers where care was provided
 - Administrative information about the stay

The SADR is the most robust source of information about MTF outpatient care delivered available to TMA.

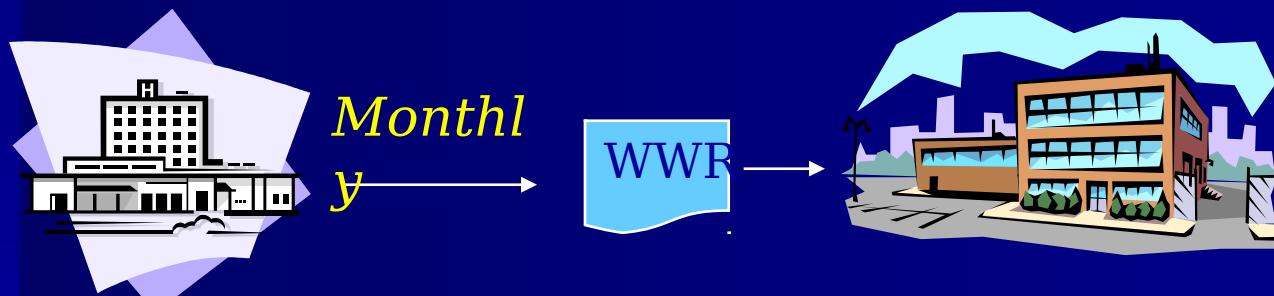
Ambulatory Data

- What could you do with SADRs?

Productivity per Work Center, compare to “peer” facilities, manage care of patients (e.g., researching preventable admissions).

Worldwide Workload Report (WWR)

- WWR is tabulated from CHCS
- WWR data is transmitted by MTFs to Service Information Agencies
 - MDR receives file around 12th of month
 - Data processing completed around 20th of month



Services

- Apply corrections
- Monitor completeness
- Publishing EX

Worldwide Workload Report

- Services send WWR to MDR
- MDR “processes” WWR
 - Each service can only report workload for its own MTFs
 - Files are restructured for easier use



What's in the WWR

- Fiscal Year, Fiscal Month
- Treatment DMISID, Parent DMISID
- Patient Category Code
- MEPRS Work Centers
- Workload Data
 - Inpatient - dispositions, admissions, days
 - Outpatient - count visits
 - Some ancillaries and other workload

Medical Expense and Performance Reporting System (MEPRS)

- MEPRS: DoD Standard Cost “Accounting” system for the MHS
- Expense, Manpower, and Workload
 - Direct and Indirect Expenses
 - FTE data
 - Salary data
 - Admissions, Bed days, Visits, Ancillary workload, other workload types
- Data Captured and Processed in Expense Assignment System III (EAS) and EASIV
- Forwarded to MEQS/EAS Central Repositories
 - Should be submitted 45 days after month end

Medical Expense and Performance Reporting System (MEPRS)

Account Structure:

First Digit

A - Inpatient Care

B - Ambulatory Care

C - Dental Care

D - Ancillary Care

E - Support Services

F - Special Programs (includes some clinical care categories)

G - Readiness

Purchased Care Data

Health Care Service Record (HCSR) -

- Claims data for civilian-provided care processed through MCS Contractors
- Claims accepted in TMA-Aurora, CO
 - Providers have up to 24 months to submit claim
 - Majority of claims are received within 3 months of care
 - MDR receives file around 1st of month
 - Data processing completed around 20th of month
- Institutional HCSR (similar to HCFA UB-92)
 - Submitted by institutions
- Non-Institutional HCSR (similar to HCFA 1500)
 - Submitted by non-institutions

Purchased Care Data

We get claims from:

- Inpatient Stays
- Outpatient Visits
- Durable medical Equipment and Supplies
- Pharmacy
- Home Health
- Hospice
- Resource Sharing/Supplemental Care
- Anything the contractor bills us for!!!!

Types of Data Elements in the HCSR

HCSRs contain information about

- The patient - demographics, patient identifiers
- The provider - provider ID, location
- The care delivered - diagnosis, procedures
- The billing/payment - billed, paid, allowed, OHI, co-pays
- Administrative information - disposition status

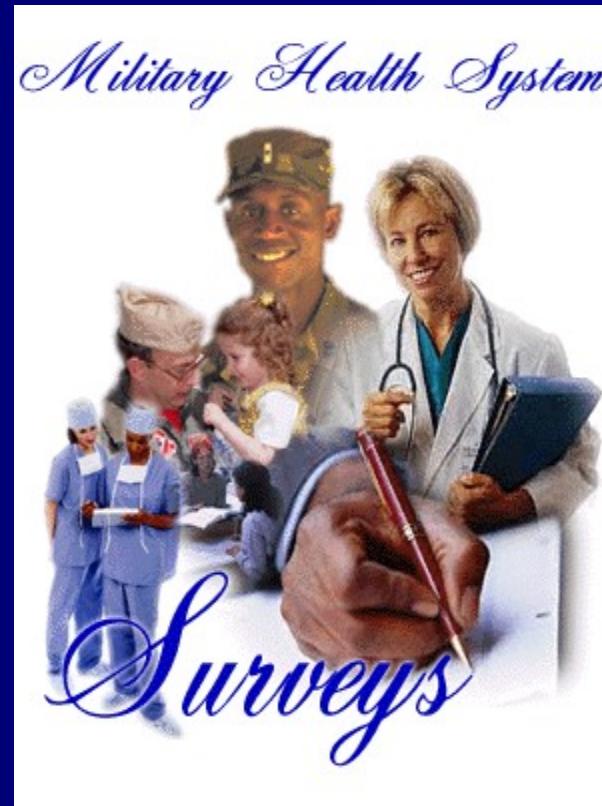
Pharmacy Data Transaction Service (PDTs)

- Operational since FY02
 - Data is transmitted twice a month
 - Data processing completed within 1 week of transmission
- Capture of MTF, retail MCSC, and TMOP pharmacy data
- Intended Use: Patient Safety
 - Does not include non-retail pharmacy
 - Includes Physician administered drugs
 - Not claim based like Health Care Service Record (HCSR), so there will be discrepancies

Pharmacy Data

- 587 Military Treatment Facility (MTF) pharmacies
- Mail Order Pharmacy (NMOP, TMOP)
- 40,000+ retail network pharmacies
- Non-network retail pharmacies

Survey Data



Major TMA/HPA&E Sponsored Surveys

- Customer Satisfaction Survey
- Health Care Survey of DoD Beneficiaries
- Purchased Care Survey
- Inpatient Survey
- NEW: Employee and Providers Surveys

Customer Satisfaction Survey (CSS)

- **INCEPTION:** January 1997. It was fully implemented in three phases: in the United States in April 1997, in Europe in July 1998, and in Latin America and Asia in April 2000.
- **SURVEY AREA:** The CSS is conducted in all 50 states, Europe, Latin America, and Asia at approximately 173 MTFs and 1,279 clinics that see more than 200 outpatient visits per month
- **Questionnaire:** 17 multiple-choice questions based on the Health Employer Data Information Set (HEDIS 3.0) National Committee on Quality Assurance Standards.

CSS Focal Areas

- SATISFACTION WITH...
- Access
- Quality
- Interpersonal Relationships
- Medical Care
- Clinic

Health Care Survey of DoD Beneficiaries (HCSDB)

Conducted annually since 1995 and sponsored by the TRICARE Management Activity, the Health Care Survey is a large scale mail survey of a representative sample of all military health system (MHS) beneficiaries, including active duty military personnel, retirees, and family members.

HCSDB Focal Areas

- Your Health Plan
- Preventive Health Care
- Your Personal Doctor or Nurse
- Getting Health Care from a Specialist
- Calling for Health Care, Help, or Advice
- Your Health Care in the Last 12 Months
- Your Health (Adult)
- Your Child's Health

MDR Derived Data Marts

- MHS Mart (M2)
- PHOTO – decision support for Population Health

MHS Mart

- **MHS Management Analysis and Reporting Tool - “M2”**
- **Description**
 - **MHS-wide summary & detailed data**
 - **Powerful ad-hoc query tool for “full client” users**
 - **Web-based report capability ready for deployment (WEBi)**
- **Targeted Users**
 - **Decision makers at all levels, MTF’s, TMA, Lead Agents, MAJCOM, Services**
- **Status**
 - **Over 800 accounts**

MHS Mart (M2)

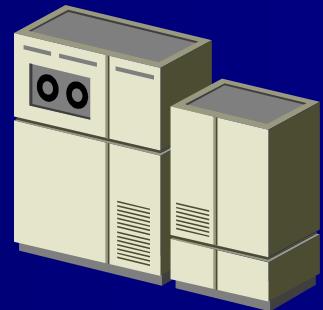
- Contains subset of MDR data
- Numerous MTF data files
 - Worldwide Workload Report
 - Standard Inpatient Data Record
 - Standard Ambulatory Data Record
 - Purchased Care Data
 - EAS
 - PDTS



MHS Mart Data Flow



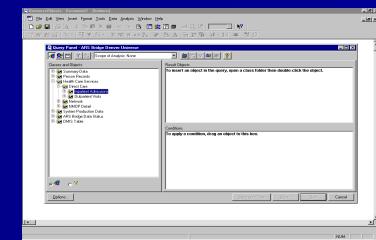
Source



MD
R



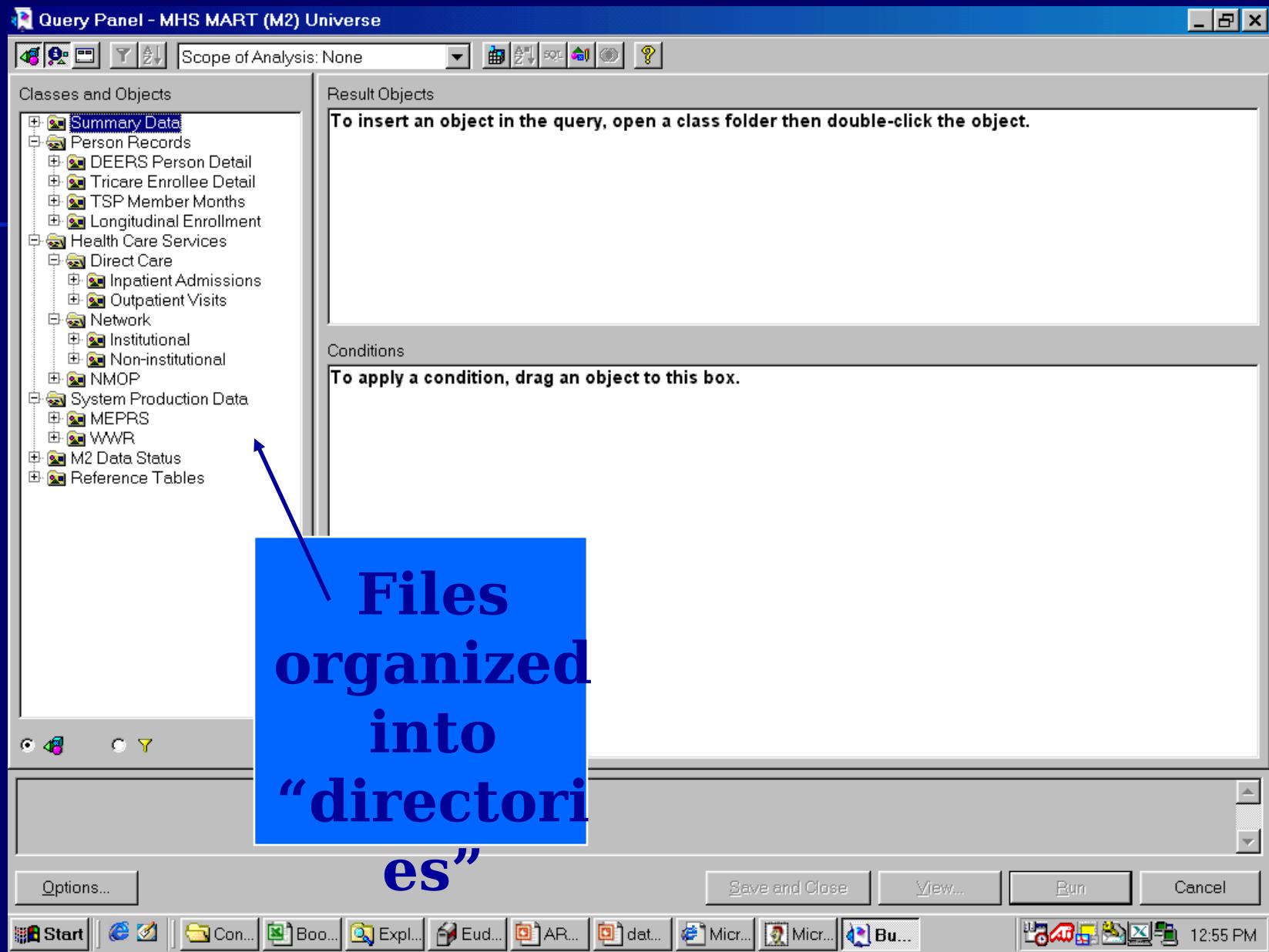
M
2

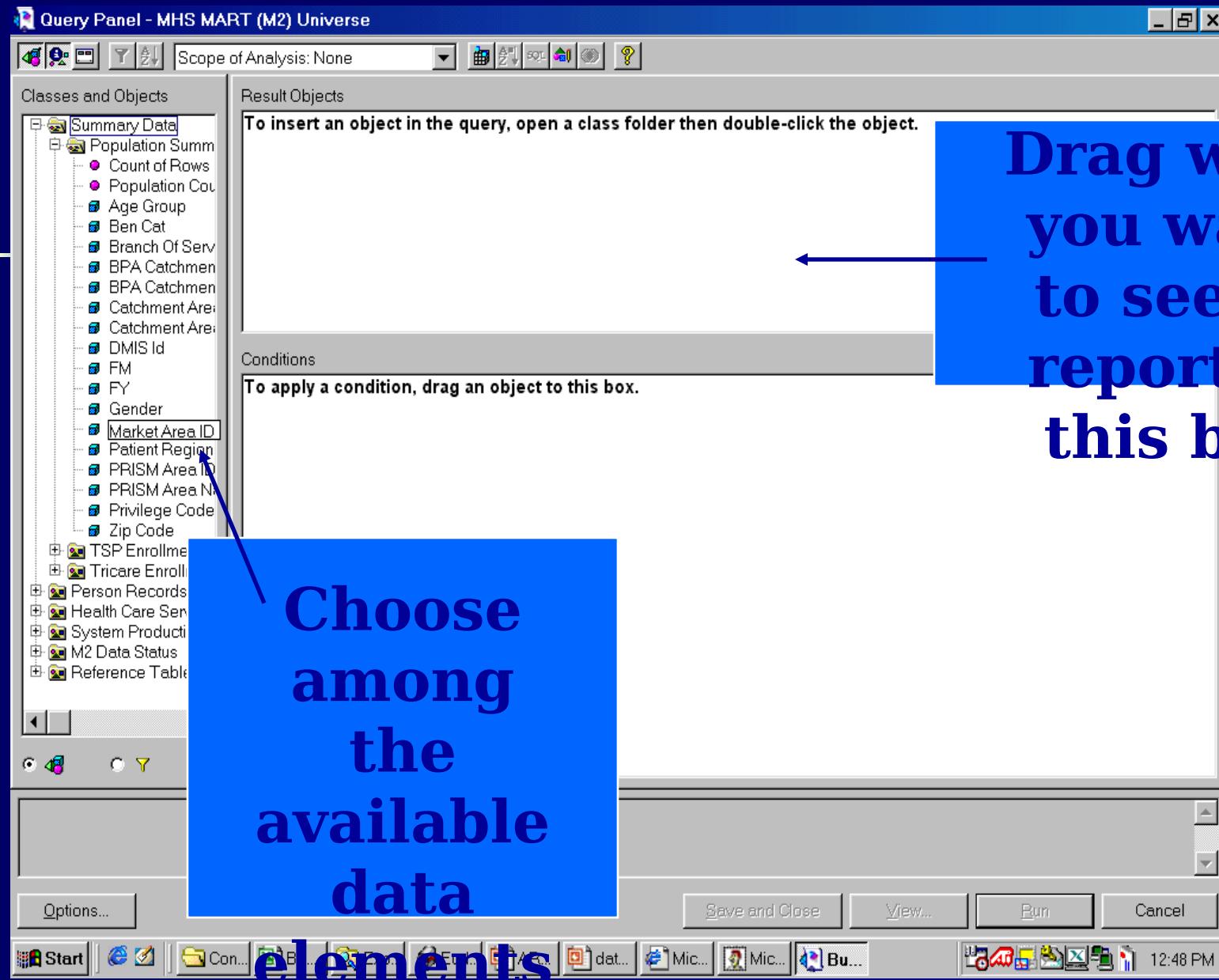


MHS Mart (M2)

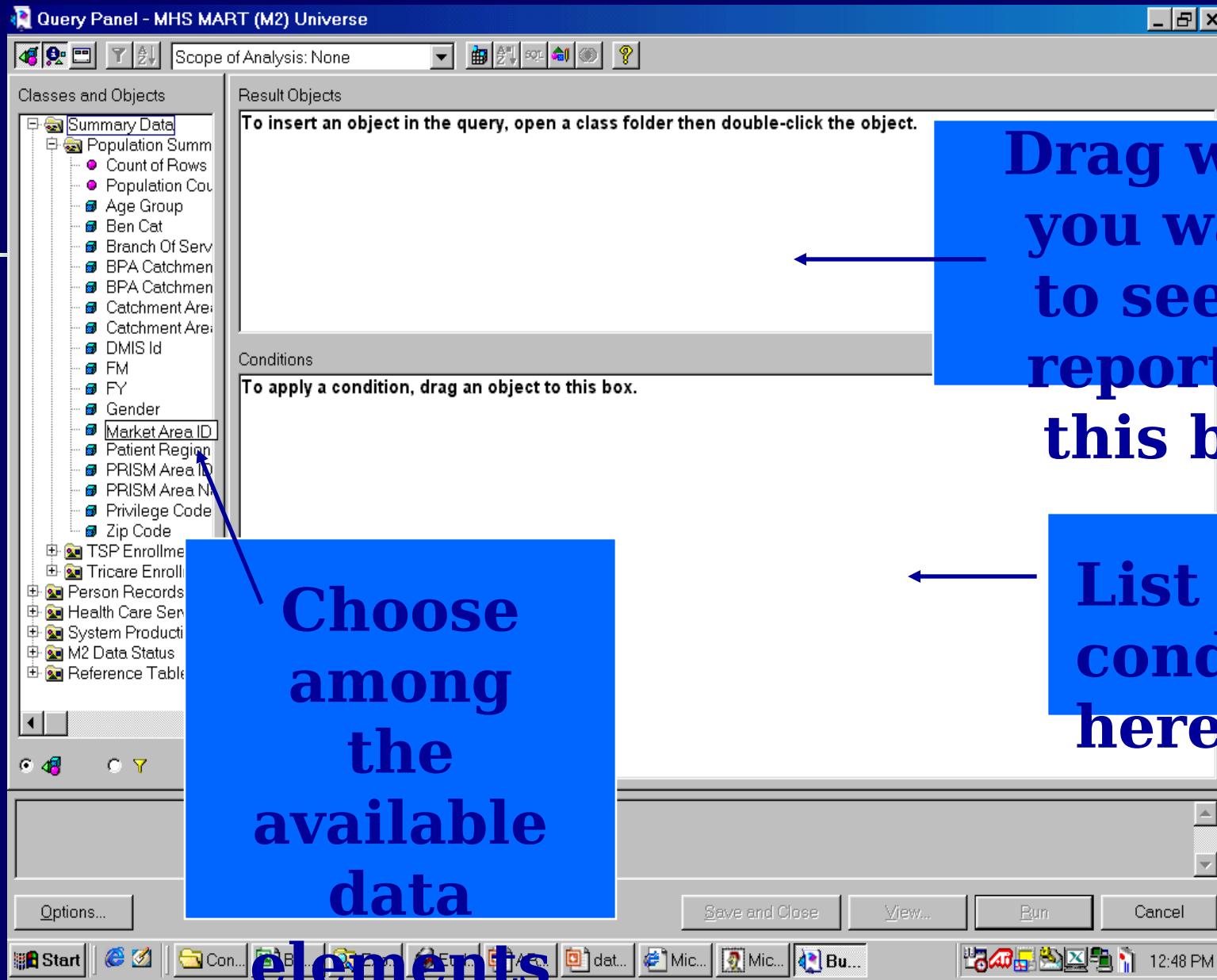
- Easy to Use:
- Point and Click Navigation
- Business Objects Based (SQL driven)
- Query tool, some spreadsheet-like capabilities
- Easy to get started, advanced functions may require more thought.







elements



elements

PHOTO - Population Health Operational Tracking & Optimization

- Data
 - MHS wide
 - Summary level w/ drill-down capability
- Tool
 - Web-based
 - Simple, intuitive interface
- Users
 - Decision makers at all levels: MTF, TMA, Lead Agents, MAJCOM, Services

PHOTO

- Measures
 - MHS Managers
 - TRICARE Health Plan Performance
 - Defined by the MHS Optimization Team
 - Validated by the Tri-Service Metrics Workgroup
 - 15 Measures currently available
- Dimensions
 - Best Clinical Practices
 - Best Business Practices
 - Population Health Improvement
 - Patient Satisfaction
- Focus on
 - TRICARE Prime Enrollees
- Total Care
 - Comprehensive View of both their MTF and network encounters

PHOTO Integrates MHS Data and Business Rules

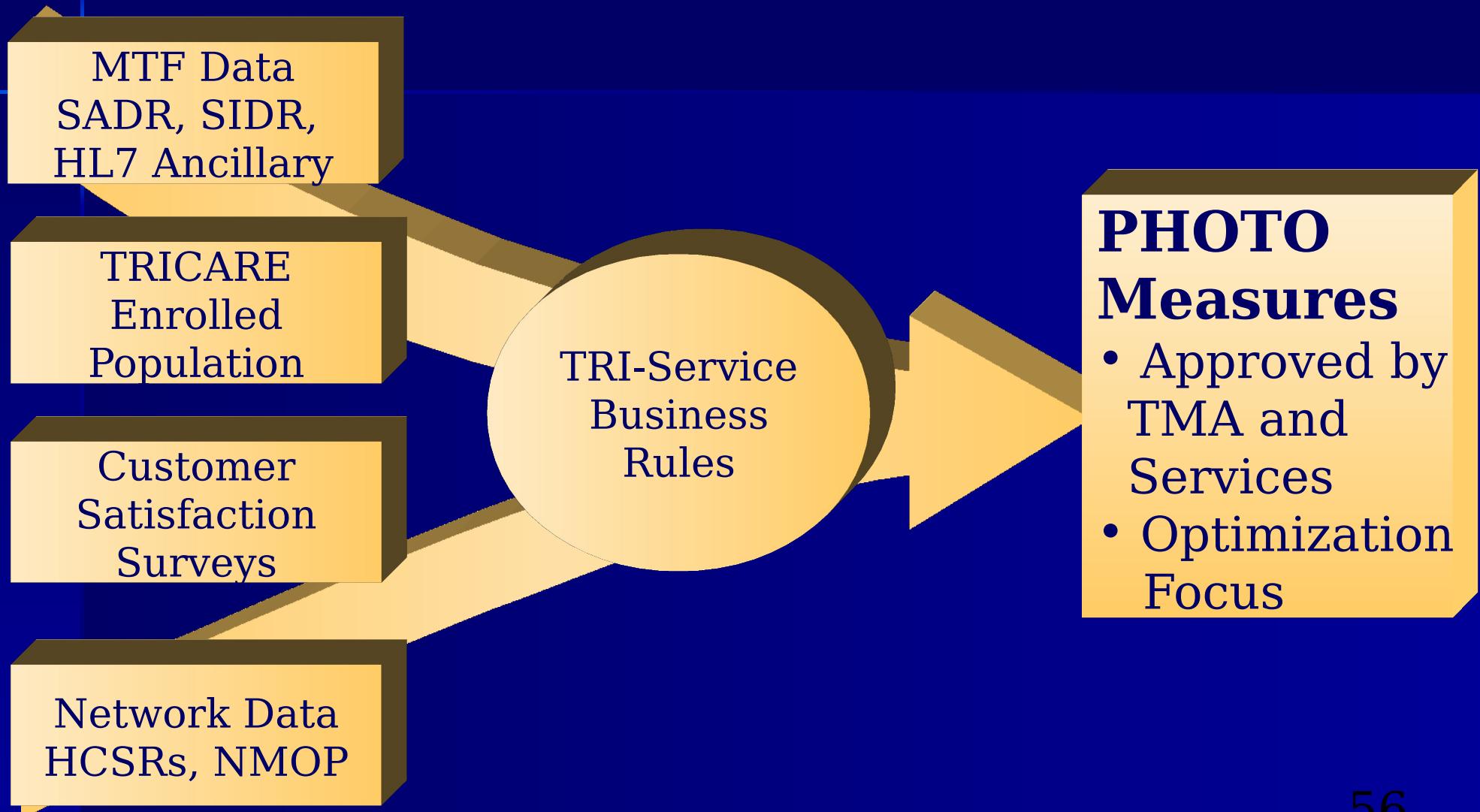


PHOTO - Making it Better

- Status
 - Currently deployed to over 275 users
- Recently Added
 - 3 New Metrics
 - Population Health
 - Best Clinical Practices
- Phase III
 - Prototype in development
 - PCM level detail



Force Health Protection



Customer Responsiveness

Population Health Improvement



Best Clinical Practices



Best Business Practices

PHOTO
Population Health Operational
Tracking and Optimization

[Log On](#) | [FAQ](#) | [User Support](#) | [Honor Roll](#) | [Publications](#)

[About PHOTO](#)

<http://photo.tma.osd.mil>

PHOTO Measure

PHOTO
Version 2.00

Force Health Protection
Customer Responsiveness
Population Health Improvement
Best Clinical Practices
Best Business Practices

[Log Off](#)
[FAQ](#)
[User Support](#)
[Honor Roll](#)
[Publications](#)
[About PHOTO](#)

Population Health Improvement

PHI 1A - Breast Cancer Screening (Continuous Enrollment)

Question: To what extent are we providing screening mammograms for enrolled women at risk for breast cancer?

Description: The percentage of enrolled women age 52 - 69 who received a screening mammogram during the current or previous year.

[Footnote](#)

[View Metric](#) [Definition](#) [Completeness](#) [Ranking](#)

PHI 1B - Breast Cancer Screening (Non-Continuous Enrollment)

Question: To what extent are we providing screening mammograms for enrolled women at risk for breast cancer?

Description: The percentage of enrolled women age 52 - 69 who received a screening mammogram during the current or previous year.

[Footnote](#)

[View Metric](#) [Definition](#) [Completeness](#) [Ranking](#)

[Back To The Top](#)

 TRICARE

 Done  Internet

9

PHOTO Measure

PHOTO Version 2.00

Population Health Improvement

View Metric Definition Completeness Ranking

PHI 1A - Breast Cancer Screening (Cervical, Endometrial)

Force Health Protection

1. Metric Name:

3. Calculation:

(Sum of HL-7 Numerator + SADR Numerator) / 100 for both

5. Data Sources:

The data sources SIDR [Longitudinal], (HL-7)

5.1 Direct Care Sources

HL-7 (Rad), SADR

5.2 Purchased Care Sources

HCSR(N), HCSR(I)

5.3 Enrollment/Eligibility Sources

DEERS(ENRL[Longitudinal]) SIDR, HCSR(I)

5.4 Reference Tables:

Revised MTF_Master

6. Numerator Methodology:

6.1 Direct Care:

From each denominator -

Count Unique members where Metric_Numerator_Indicator = C1 and DateTime of Observation <= Previous 24 months from the end of the 12-month reporting period (HL-7 Rad)

- or -

Count unique members where any Diagnosis = V7611 or V7612 or any Procedure = 8736 or 8737 (SIDR) and Service Date <= Previous 24 months from the end of the 12-month reporting period (SIDR)

- or -

Count unique members where any Diagnosis = V7611 or V7612 or Procedure_Code = 76090 - 76092 and Service Date <= 24 months from the end of the 12-month reporting period (SADR)

PHOTO Measure Initial View

PHOTO
Version 2.00

Population Health Improvement [View Metric](#) [Definition](#) [Completeness](#) [Ranking](#)

PHI 1A - Breast Cancer Screening (Continuous Enrollment)

Force Health Protection Customer Responsiveness Population Health Improvement Best Clinical Practices Best Business Practices

Log Off FAQ User Support Honor Roll Publications About PHOTO

2002 All DoD Beneficiary Category Age Category Enrollment Status

MEASURES as values

MEASURES

% Eligible Women Receiving Mammograms

% Eligible Women Receiving Mammograms

2002/Jan 2002/Mar 2002/May 2002/Jul 2002/Sep 2002/Oct

2002/Feb 2002/Apr 2002/Jun 2002/Aug 2002/Dec

2002

Month	% Eligible Women Receiving Mammograms
2002/Jan	75
2002/Feb	75
2002/Mar	75
2002/Apr	75
2002/May	75
2002/Jun	75
2002/Jul	75
2002/Aug	75
2002/Sep	75
2002/Oct	75

Done Internet

1

PHOTO Drill Down

PHOTO
Version 2.00

Population Health Improvement View Metric Definition Completeness Ranking

PHI 1A - Breast Cancer Screening (Continuous Enrollment)

2002 All DoD Beneficiary Category Age Category Enrollment Status

MEASURES
% Eligible Women Receiving Mammograms

% Eligible Women Receiving Mammograms

2002/Jan 2002/Mar 2002/Feb 2002/Apr

All DoD
Army
Navy
Air Force
Network
Coast Guard
Non-Catchment
Unspecified
By Region
Action

00
01
02
03
04
05
06
07
08
09
10
11
12
13
14
15
Unspecified

Direct
New York
2002/Sep
2002/Aug
2002

20th MED GRP-SHAW
347th MED GRP-MOODY
437th MED GRP-CHARLESTON
45th MED GRP-PATRICK
6th MED GRP-MACDILL
78th MED GRP-ROBINS
EISENHOWER AMC-FT. GORDON
MARTIN ACH-FT. BENNING
MONCRIEF ACH-FT. JACKSON
NH BEAUFORT
NH CHARLESTON
NH JACKSONVILLE
USS JOHN F KENNEDY (CV67)
WINN ACH-FT. STEWART
USCG CLINIC BASE MIAMI

TRICARE

Done Internet

PHOTO “Crosstab”

PHOTO
Version 2.00

Population Health Improvement [View Metric](#) [Definition](#) [Completeness](#) [Ranking](#)

PHI 1A - Breast Cancer Screening (Continuous Enrollment)

2002 < All DoD

MEASURES	2002/Jan	2002/Feb	2002/Mar	2002/Apr	2002/May	2002/Jun	2002/Jul	2002/Aug	2002/Sep	2002/Oct	2002
% Eligible Women Receiving Mammograms	75.41%	75.28%	75.24%	75.31%	75.31%	75.19%	75.22%	75.01%	74.26%	73.28%	74.94%
MEASURES	NA	NA									

[Log Off](#) [FAQ](#) [User Support](#) [Honor Roll](#) [Publications](#) [About PHOTO](#)

TRICARE



Done Internet

PHOTO Breakout

PHOTO Version 2.00

Population Health Improvement [View Metric](#) [Definition](#) [Completeness](#) [Ranking](#)

PHI 1A - Breast Cancer Screening (Continuous Enrollment)

2002 [All DoD](#) [Beneficiary Category](#) [Age Category](#) [Enrollment Status](#)

MEASURES	2002/Jan	2002/Feb	2002/Mar	2002/Apr	2002/May	2002/Jun	2002/Jul	2002/Aug	2002/Sep	2002/Oct	2002
as values	75.41%	75.28%	75.24%	75.31%	75.31%	75.19%	75.22%	75.01%	74.26%	73.28%	74.94%
% Eligible Women Receiving Mammograms	NA	NA									

MEASURES
2002
All DoD
Beneficiary Category
Age Category
Enrollment Status
Action

Done  Internet

4

PHOTO Breakout

PHOTO Version 2.00

Population Health Improvement [View Metric](#) [Definition](#) [Completeness](#) [Ranking](#)

PHI 1A - Breast Cancer Screening (Continuous Enrollment)

2002 [All DoD](#) [Beneficiary Category](#) [Age Category](#) [Enrollment Status](#)

% Eligible Women Receiving Mammograms as values	2002/Jan	2002/Feb	2002/Mar	2002/Apr	2002/May	2002/Jun	2002/Jul	2002/Aug	2002/Sep	2002/Oct	2002
Army	78.31%	78.11%	77.89%	77.98%	77.99%	77.96%	77.85%	77.54%	76.76%	75.74%	77.60%
Navy	75.05%	74.93%	75.01%	74.91%	74.96%	74.97%	75.17%	74.95%	74.15%	73.13%	74.71%
Air Force	75.36%	75.34%	75.35%	75.55%	75.58%	75.48%	75.45%	75.34%	74.60%	73.61%	75.16%
Network	73.25%	73.06%	73.06%	73.07%	73.02%	72.78%	72.88%	72.66%	71.96%	71.03%	72.66%
Coast Guard	89.47%	89.47%	94.44%	94.44%	93.75%	93.75%	93.75%	93.75%	84.21%	85.00%	90.96%
Non-Catchment	44.12%	47.06%	44.12%	38.24%	36.11%	34.29%	37.50%	43.33%	38.24%	34.48%	39.76%
Unspecified	/0	/0	/0	/0	/0	/0	/0	0.00%	0.00%	0.00%	0.00%
All DoD +	75.41%	75.28%	75.24%	75.31%	75.31%	75.19%	75.22%	75.01%	74.26%	73.28%	74.94%

Done  Internet

5

PHOTO Measure Options

PHOTO Version 2.00

Population Health Improvement [View Metric](#) [Definition](#) [Completeness](#) [Ranking](#)

PHI 1A - Breast Cancer Screening (Continuous Enrollment)

2002 [All DoD](#) [Beneficiary Category](#) [Age Category](#) [Enrollment Status](#)

	Jan	2002/Feb	2002/Mar	2002/Apr	2002/May	2002/Jun	2002/Jul	2002/Aug	2002/Sep	2002/Oct	2002
MEASURES											
% Eligible Women Receiving Mammograms	31%	78.11%	77.89%	77.98%	77.99%	77.96%	77.85%	77.54%	76.76%	75.74%	77.60%
Eligible Women Receiving Mammograms	05%	74.93%	75.01%	74.91%	74.96%	74.97%	75.17%	74.95%	74.15%	73.13%	74.71%
Eligible Women	36%	75.34%	75.35%	75.55%	75.58%	75.46%	75.45%	75.34%	74.60%	73.61%	75.16%
Action	73.25%	73.06%	73.06%	73.07%	73.02%	72.78%	72.88%	72.66%	71.96%	71.03%	72.66%
Network											
Coast Guard	89.47%	89.47%	94.44%	94.44%	93.75%	93.75%	93.75%	93.75%	84.21%	85.00%	90.96%
Non-Catchment	44.12%	47.06%	44.12%	38.24%	36.11%	34.29%	37.50%	43.33%	38.24%	34.48%	39.76%
Unspecified	/0	/0	/0	/0	/0	/0	/0	0.00%	0.00%	0.00%	0.00%
All DoD	75.41%	75.28%	75.24%	75.31%	75.31%	75.19%	75.22%	75.01%	74.26%	73.28%	74.94%

Done Internet

Questions?

